

Specification

1. Title of the Invention

RESIN MOLD MOTOR

2. Claims

A resin mold motor comprising a body made of a resin and molded integrally with a stator to mount thereto a bearing metal, which journals one side of a shaft of a rotor, and a bracket provided to hold another bearing metal, which journals the other side of the shaft of the rotor, wherein the bracket is freely inserted and fitted into a cylindrical-shaped recess formed on the body, an axially spiral groove is formed on one of a circumferential surface of the recess and the circumferential surface of the bracket, which is in contact with the circumferential surface of the recess so as to be spiral in the axial direction, a projection is formed on the other of the circumferential surfaces, and positions of the bearing metal or metals in a direction of thrust can be adjusted by regulating the abutment position of the projection inserted into the groove, with respect to the same.

3. Detailed Description of the Invention

The present invention relates to a resin mold motor, and has its object to provide a resin mold motor of a

construction that thrust of a shaft is adjustable.

As shown in Fig. 1, a conventional resin mold motor of this type comprises a bracket 1 made of steel sheet to hold a bearing, the bracket being fixed to a body 2 by screws. When thrust is varied due to dispersion in thickness of shaft washers 4, 5, 6, a collar 7, and a rotor core 8 and goes off a standard value, the thrust is adjusted by removing the bracket 1 and replacing the shaft washers 4, 5 by ones having different thicknesses, so that it takes much time to adjust the thrust.

The invention has been made to solve such conventional disadvantage, and an embodiment thereof will be described below with reference to Figs. 2 and 3. The reference numeral 11 denotes a body prepared by molding a whole stator 12 with a resin, and a bearing metal 13 is mounted thereon by means of a metal holding spring 14 and a metal cover 15. The reference numeral 16 denotes a bracket mounted to the body 11 and is molded by a resin likewise the body 11 and holding thereon a bearing metal 13 in the same manner as on the body 11. A cylindrical-shaped recess 17 is provided on the body 11 to mount thereon the bracket 16, and a plurality of projections 18 are provided on an inner periphery of the recess 17. The reference numeral 19 denotes grooves provided on an outer peripheral surface of the bracket

16 to be spiral in an axial direction of a shaft 20, the grooves 19 being positioned so as to be fitted onto the plurality of projections 18 on a circumference of the recess 17, into which the bracket 16 is fitted. The reference numerals 21, 22, 23 denote shaft washers mounted on the shaft 20, 24 a collar, and 25 a rotor core.

When the motor constructed in the above manner is assembled, the plurality of grooves 19 of the bracket 16 with a bearing held thereon are caused to be fittingly mated with the plurality of projections 18 provided on the recess 17 of the body 11, and the bracket 16 is inserted into the recess 17 of the body 11 while being rotated to be mounted thereon. By changing a rotational position of the bracket 16, which is fitted into the recess 17 of the body 11, at the time of insertion, it is possible to vary a dimension between the bearing metals 13 to absorb a manufacturing dispersion in thickness of the shaft washers 21, 22, 23, the collar 24, and the rotor core 25, thus enabling to adjust thrust to a predetermined standard value. The bracket 16 is fixed by bonding after the adjustment of thrust is terminated.

As apparent from the embodiment, the resin mold motor of the invention enables to adjust the positions of the bearing metals in a direction of thrust by means

of mounting a bearing metal, which journals one side of a shaft of the rotor, on the body made of a resin and molded integrally with the stator, providing another bearing metal, which journals the other side of the shaft of the rotor, on the bracket, fitting the projections provided on the inner periphery of the recess formed on the body and the spiral grooves formed on the circular, outer periphery of the bracket together, inserting the bracket into the body while rotating the bracket to fit thereinto, and adjusting the position of rotating insertion, and produces an effect of absorbing dispersion in thickness of the shaft washers, the collar, and the rotor core and readily adjusting thrust of the rotor to a predetermined range.

4. Brief Description of the Drawings

Fig. 1 is a cross sectional view showing a related art, Fig. 2 is an exploded, perspective view showing a resin mold motor according to an embodiment of the invention, and Fig. 3 is a longitudinal, cross sectional view showing the motor.

11: body, 12: stator, 13: bearing metal, 16: bracket, 17: recess, 18: projection, 19: groove, 20: shaft, 21, 22, 23: shaft washer, 24: collar, 25: rotor core